



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/645,745	08/20/2003	Hans-Joerg Renz	10191/3340	9163
26646	7590	04/03/2006	EXAMINER	
KENYON & KENYON LLP ONE BROADWAY NEW YORK, NY 10004			TALBOT, BRIAN K	
			ART UNIT	PAPER NUMBER

1762

DATE MAILED: 04/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/645,745

Applicant(s)

RENZ, HANS-JOERG

Examiner

Brian K. Talbot

Art Unit

1762

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 01 June 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 8/20/03.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

Art Unit: 1762

1. Claims 1-16 remain in the application.

***Information Disclosure Statement***

2. The information disclosure statement filed 8/20/03 fails to comply with 37 CFR 1.98(a)(3) because it does not include a concise explanation of the relevance, as it is presently understood by the individual designated in 37 CFR 1.56(c) most knowledgeable about the content of the information, of each patent listed that is not in the English language. It has been placed in the application file, but the information referred to therein has not been considered.

It is noted that on the PTO-1449, an abstract of the references is included, however, no English abstract has been found. The first document was described in the specification, however, no translation was found.

***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 5,6,10 and 14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With respect to claims 5 and 14, the claim recites improper Markush Terminology. The phrase "selected from the group consisting of" should introduce the items.

Art Unit: 1762

With respect to claim 6, the term “the application” lacks antecedent basis.

With respect to claim 10, the term “heating” lacks antecedent basis.

4. Claims 1-16 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for manufacturing a sensor element whereby the barrier layer is vaporized and the functional layer is fused to the substrate during subsequent sintering, does not reasonably provide enablement for all other non-sensor “layered systems” whereby a barrier layer remains after heating. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention commensurate in scope with these claims.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4,9,14 and 15 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Touda et al. (4,462,890).

Touda et al. (4,462,890) teaches an oxygen sensing element having barrier layer between ceramic substrate and solid electrolyte layer. The barrier layer prevents diffusion of the stabilizing oxide from the solid electrolyte layer into the ceramic layer. The barrier layer is

Art Unit: 1762

formed of ceramic material such as the electrolyte material or a metal such as platinum (abstract). The oxygen sensing element can be used in an exhaust system as a detecting means for air/fuel ratio in an engine (col. 1, lines 12-25). The barrier layer can be applied by screen printing and spraying (col. 4, lines 25-40). The barrier layer is a paste of powdered solid electrolyte of  $ZrO_2$  and  $Y_2O_3$  and an organic liquid vehicle. The barrier layer is applied and dried to form a barrier layer of 10 microns thick (col. 5, lines 19-25).

6. While the Examiner acknowledges the fact that Touda et al. (4,462,890) fails to recite that the solvent is prevented from penetrating the ceramic carrier, it is the Examiner's position that this would be inherent as Touda et al. (4,462,890) teaches preventing the diffusion of the stabilized oxide which has a solvent (vehicle) and hence the solvent would also be prevented by the barrier layer. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Touda et al. (4,462,890) in combination with DE 4100108.

Art Unit: 1762

Touda et al. (4,462,890) is silent with regards to the functional layer having a solvent comprising butylcarbitol or 2-ethyl-1-hexanol.

DE 4100108 teaches a sensor element having a functional layer comprising stabilized zirconium and yttrium having butylcarbitol or 2-ethyl-1-hexanol as a solvent.

Therefore it would have been obvious for one skilled in the art at the time the invention was made to have utilized the claimed solvent with the expectation of achieving similar success.

***Allowable Subject Matter***

8. Claims 5-8,10-13 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

***Reason for Indicating Allowable Subject Matter***

9. The following is a statement of reasons for the indication of allowable subject matter:

The prior art fails to teach a barrier layer comprising polyvinyl alcohol or a two-component lacquer or that the barrier layer is vaporized and the functional layer is fused to the ceramic substrate.

Art Unit: 1762

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian K. Talbot whose telephone number is (571) 272-1428. The examiner can normally be reached on Monday-Friday 6AM-3PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy H. Meeks can be reached on (571) 272-1423. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Brian K Talbot  
Primary Examiner  
Art Unit 1762

BKT